

Haskins Laboratories  
305 East 43<sup>rd</sup> Street  
New York 17, N.Y.

October 30, 1945

Mr. Ruderberg  
College of Physicians and Surgeons  
Columbia University  
620 West 168th Street  
New York, N. Y.

Dear Mr. Ruderberg:

The Shigella and the Strep. faecalis are being sent today.

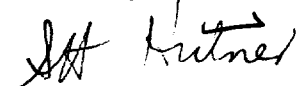
The relatively gunkless base for the uracil assay has the following composition:

K <sub>2</sub> HPO <sub>4</sub>	0.06%
(NH <sub>4</sub> ) <sub>2</sub> HPO <sub>4</sub>	0.08%
Citric Acid	0.02%
MgSO <sub>4</sub> ·7H <sub>2</sub> O	0.015%
dl Tryptophane	0.02%
Lactate	0.4%
Mannitol	0.2%
Ca	0.2mg%
Nicotinic acid	0.1mg%
Fe	0.2mg%
Zn	0.05mg%
Mn	0.05mg%
pH	6.8-7.0 (much wider range probably o.k.)

Progress on the missing elements has been quite rapid. For the first time I'm getting growth on synthetic media almost equal to that in gunk. But as this work is being done with purple bacteria, and involves elements whose possible importance I had hardly suspected, it will take some weeks before I will be in a position to see whether I have a general solution to the gunk-replacement problem. As you suggested over the phone, casamino acids should be good. I had found casein hydrolysate very efficient. You could probably omit the Ca to advantage in this type of soup.

Let me know how you make out.

Sincerely,



S. H. Hutner  
Staff Microbiologist

SHH/jh